



# AFRI SAS Soil to Society (S2S) Year 5

## Cumulative Publication Impact Summary

### INTRODUCTION

The Office of Educational Innovation and Evaluation (OEIE) conducted an assessment of Soil to Society's cumulative scholarly publications from project years 1 to 5 by applying bibliometric and altmetric analyses. These analyses demonstrate progress toward the transfer of knowledge to the broader community through scholarly publications and assist the project in evaluating the quantity and quality of their dissemination efforts.

Given that research projects and their teams are complex and unique, with different goals (Adams et al., 2019), the results presented in this summary should not be used for comparison across researchers, disciplines, institutions, and other research projects.

In interpreting these findings, it should be kept in mind that bibliometric and altmetric analyses measure the quantity and quality of the dissemination of only a project's research through publications. Other outputs and dissemination efforts from the project that are beyond the scope of academic publications are not measured by these analyses. Therefore, this evaluation activity describes the impact of one portion of the project's dissemination efforts and should not be considered a comprehensive assessment of all project work distributed to invested parties.

## METHODS & ANALYSIS

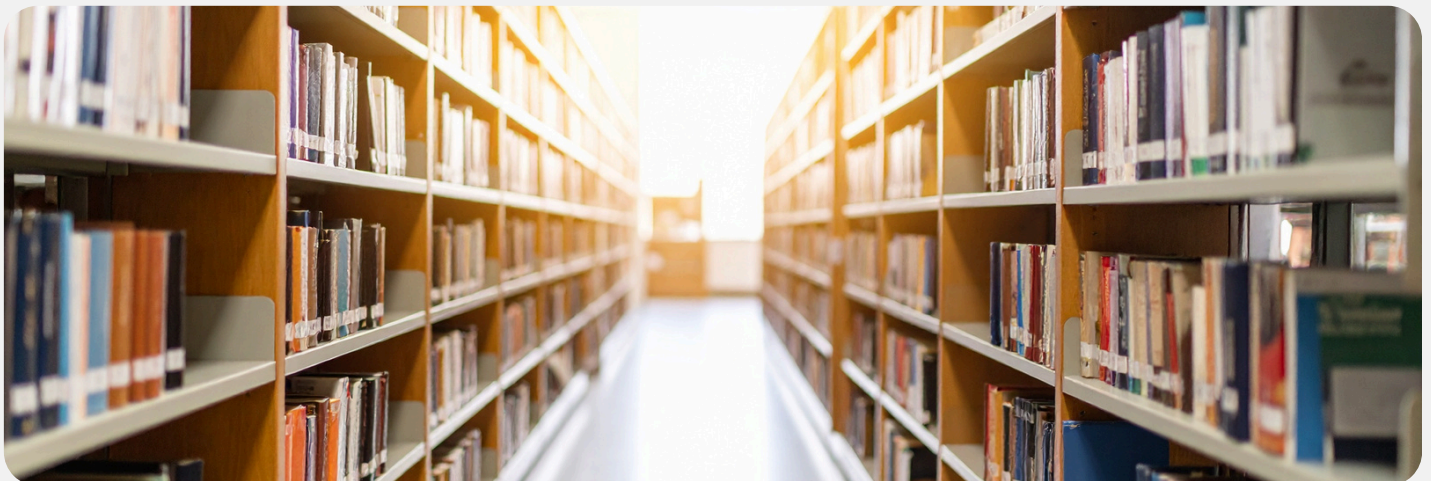
In October 2025, OEIE obtained a list of 19 project publications from project leadership and by searching the Scopus database using the S2S grant number (2021-68012-35955) for inclusion in the publication impact study. Of the 19 project publications, bibliometric data were available for 17 papers (89.5%). OEIE conducted a PlumX search of project products and also found altmetric data for 17 project publications (89.5%).

This bibliometric and altmetric assessment of S2S’s scholarly publications helps to demonstrate progress toward the transfer of knowledge to the broader community and to assist the project in evaluating the quantity and quality of these dissemination efforts. The following results include highlights of the bibliometric and altmetric analyses and represent the metrics found for project publications as of October 2025.

See Appendix A for a detailed list of project publications and their associated bibliometric and altmetric data.

## BIBLIOMETRICS

Bibliometric analysis is the “application of mathematics and statistical methods to books and other media of communication” (Pritchard, 1969). OEIE uses Scopus,<sup>1</sup> a citation database of peer-reviewed journals, books, and conference proceedings operated by Elsevier. Bibliometric analysis for this report includes citation and field-weighted citation impact (FWCI) analysis. Citation analysis is the study of the impact and assumed quality of a peer-reviewed article, journal, or institution based on the frequency with which works or authors have been cited by others (Vucovich et al., 2008). FWCI is the ratio of a publication’s citations to the average number of citations received by all similar publications indexed in the Scopus database over a three-year window (Field Weighted Citation Impact, 2020).



1. See Elsevier for more information: [Scopus: A Comprehensive Abstract and Citation Database for Impact Makers](#)

# BIBLIOMETRIC RESULTS

## CITATION ANALYSIS

Table 1 presents a summary of the overall citation results for S2S publications from project years 1 to 5. Between 2022 and October 2025, 19 papers were published, with most publications appearing in 2024 and 2025 (78.9%). Given the long-term nature of S2S project research, it is to be expected that publications would be weighted toward later project years.

- 2022: 2 (10.5%)
- 2023: 2 (10.5%)
- 2024: 8 (42.1%)
- 2025: 7 (36.8%)

17 project publications have, to date, generated 76 citations. The following publications had the highest number of citations:

- “The diversity of quinoa morphological traits and seed metabolic composition” (2024)
- “A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection” (2023)

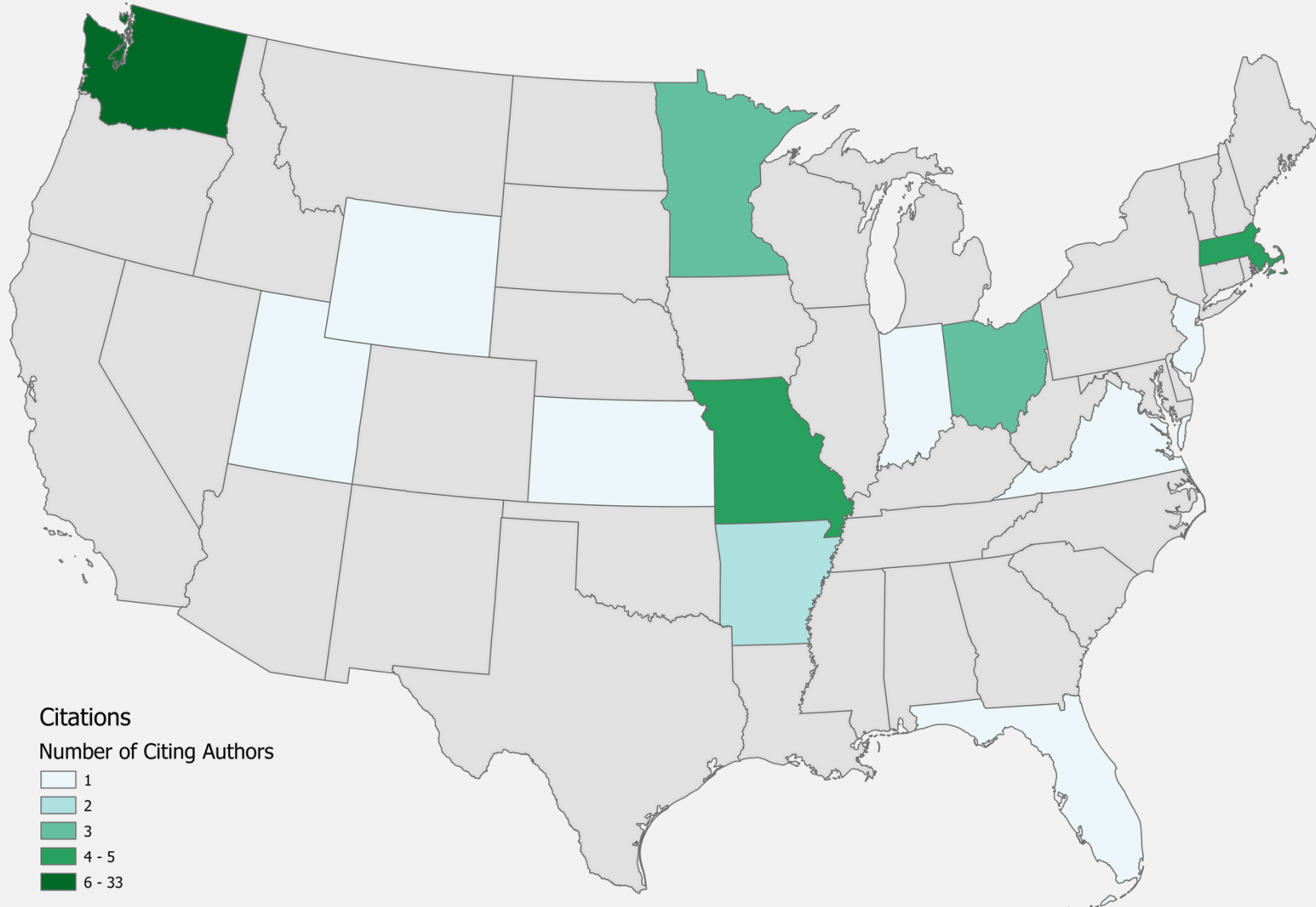
**Table 1. Summary of S2S Years 1-5 Publication Citations**

Bibliometrics	Years 1–5 (N = 19)
<b>Number of total project publications found in Scopus</b>	17 (89.5%)
<b>Number of publications in Scopus with at least one citation</b>	10 (52.6%)
<b>Number of publications in Scopus with more than one citation</b>	8 (42.1%)
<b>Number of total non-self-citations</b>	54
<b>Number of total citations</b>	76

Table 1 represents October 2025 Scopus values.

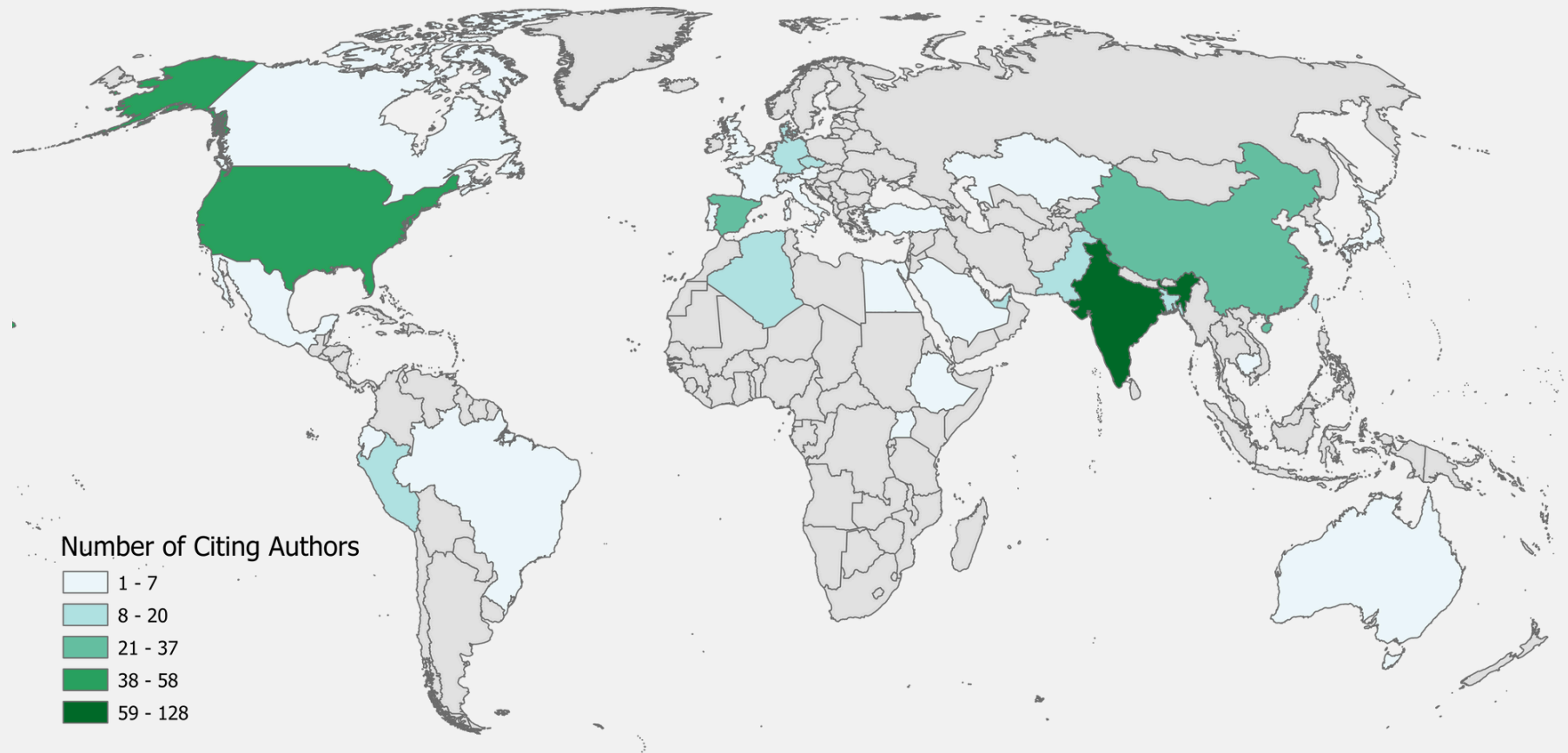
To visualize the reach of S2S project publications, OEIE created a U.S. map (Figure 1) and a world map (Figure 2) to show the geographic locations of citing authors (excluding self-citations). Citing authors are represented by shading in each state or each country they are affiliated with. An author may be represented multiple times if they cited multiple project publications (i.e., the author would be represented for each of those publications) and/or have affiliations with more than one state or country (i.e., the author would be represented for each of those affiliations).

**Figure 1. State Affiliations of Authors Citing S2S Publications**



As of October 2025, S2S publications had been cited by authors with 57 affiliations within the U.S., representing 13 states, the most frequent being Washington (33 affiliations, 57.9%). Frequencies shown in the map exclude self-citations.

**Figure 2. Country Affiliations of Authors Citing S2S Publications**



As of October 2025, S2S publications had been cited globally by authors with 415 affiliations, representing 33 countries, the most frequently of which were India (128 affiliations, 30.8%) and the United States (57 affiliations, 13.7%). Frequencies shown in the map exclude self-citations. For a full list of citations by country, refer to Appendix B.

## FWCI

Figure 3 provides FWCI scores for the S2S publications found in Scopus. FWCI scores show how each publication's citation count compares to similar publications in the same field (i.e., weighted based on field) and within the same three-year time frame of the publication date. A value of 1.00 indicates the publication has been cited the expected number of times according to the average for similar publications, while greater or lesser FWCI scores indicate the publication has been cited either more or less than expected, respectively.

- Of the 17 S2S publications found in Scopus, 10 (58.8%) have a FWCI score. These scores range from 0.14 to 3.32.
- Four (40.0%) have FWCI scores greater than 1.00.
  - **3.32:** “A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection” (2025)
  - **2.79:** “High  $\beta$ -glucan whole grain barley reduces postprandial glycemic response in healthy adults – part one of a randomized controlled trial” (2025)
  - **2.21:** “Value-added pancakes: Incorporation of whole wheat buckwheat, quinoa, and proso millet flour into pancakes and their effect on product quality” (2024)
  - **1.99:** “Consumption trends and eating context of lentils and dried peas in the United States: A nationally representative study” (2024)

Publications may accrue additional citations over time as they reach a wider audience.

**Figure 3. FWCI Scores of S2S Publications in Years 1-5**

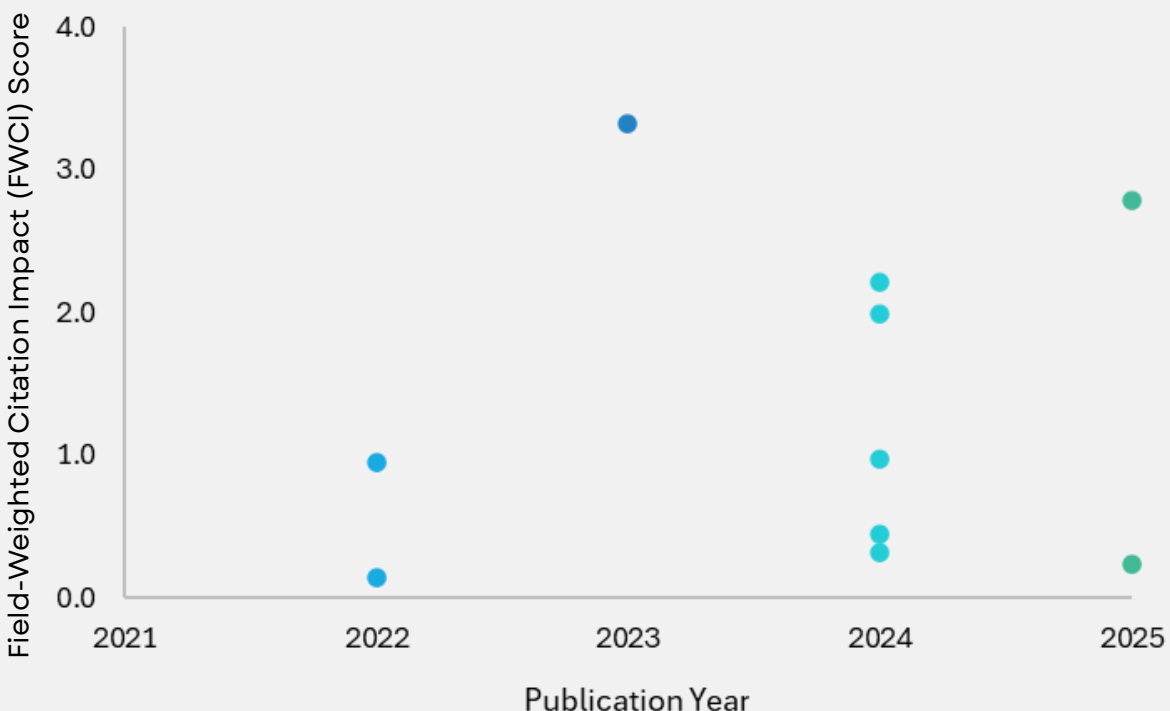


Figure 3 represents Scopus data as of October 2025.

## CITATIONS

The majority of S2S publications on Scopus were above the 50th percentile for citations (70%;  $n = 7$ ), with 40% above the 75th citation percentile, indicating the citation impact of project publications (Figure 4).

In addition to being cited on Scopus, six S2S publications (35.3%) are also cited on PubMed,<sup>2</sup> a database of scholarly articles focused on life sciences and biomedical topics (e.g., medicine, nursing, pharmacy, dentistry, veterinary medicine, health care, biology, and biochemistry). Two publications, “A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection” and “The diversity of quinoa morphological traits and seed metabolic composition,” received 10 citations each on PubMed. Between them, these articles were responsible for 83.3% of all PubMed citations for the project.

Four S2S publications (23.5%) received seven citations on Crossref,<sup>3</sup> a not-for-profit organization that creates and maintains open digital infrastructure to support scholarly communication and metadata by linking a variety of output types (peer-reviewed articles, books, conference presentations, grants, technical reports, data sets, etc.).

**Figure 4. Citation Percentiles of S2S Year 1-5 Publications**

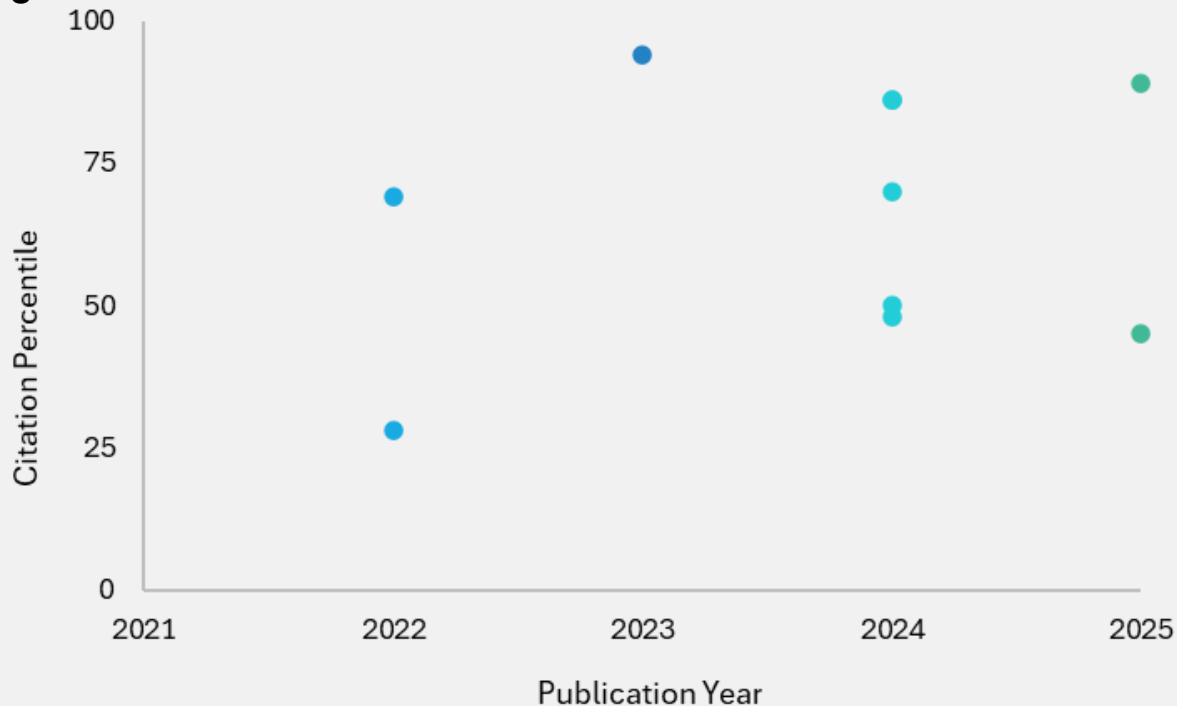


Figure 4 represents Scopus data as of October 2025.

2. See NIH for more information: [PubMed Overview](#)
3. See Crossref for more information: [About Us](#)

## CITING RESEARCH CATEGORIES & PUBLISHING JOURNALS



Citations of S2S project publications appear in 18 different research categories, comprising 47 subcategories (Figure 5), demonstrating that the project’s research findings inform current research in a wide range of disciplines, from agriculture to engineering to medicine. The top citing research categories are:



Agricultural and Biological Sciences

Biochemistry, Genetics, and Molecular Biology

Environmental Science

Note. Percentages represent the percentage of citations in that category compared to the total number with citing categories (172).

See Appendix C for a complete list of citing research categories and subcategories.

S2S research findings have been published in 13 different peer-reviewed journals. See Appendix D for a complete list of publishing journals. These journals represent disciplines ranging from food composition to plant disease and demonstrate the interdisciplinary nature of project research. The following journals have most frequently published S2S research findings to date are:

- Journal of Food Science ( $n = 4$ , 23.5%)
- Nutrients ( $n = 3$ , 17.6%)
- Frontiers in Plant Science ( $n = 2$ , 11.8%)

## UNITED NATIONS SDGS

The Scopus platform identifies which, if any, of the 17 United Nations (UN) Sustainable Development Goals (SDGs) publications contribute to. Five (29.4%) S2S publications have been identified as contributing to SDGs. Four publications contribute to the body of knowledge supporting UN SDG 2: Zero Hunger:

- “A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection” (2023)
- “Developing a definition of biofortification through the synthesis of food biofortification publications: A scoping review protocol” (2022)
- “Evaluating relationships between seed morphological traits and seed dormancy in *Chenopodium quinoa Willd.*” (2024)
- “Preharvest sprouting in quinoa: A new screening method adapted to panicles and GWAS components” (2024)

One publication contributes to research toward UN SDG 8: Decent Work and Economic Growth and UN SDG 13: Climate Action:

- “The diversity of quinoa morphological traits and seed metabolic composition” (2024)

**Figure 5. Research Categories of Publications Citing S2S Publications**

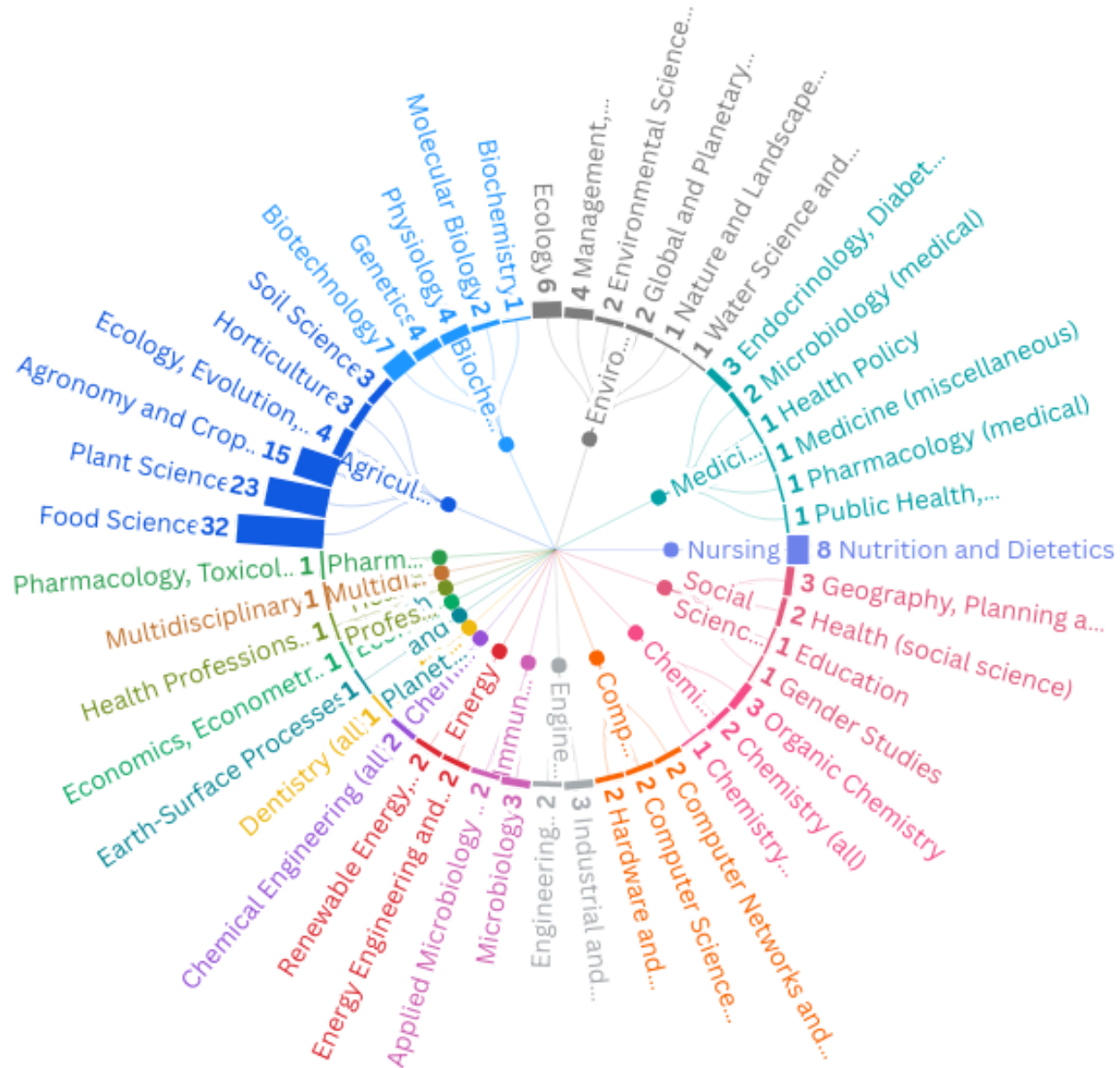


Figure 5 represents Scopus data as of October 2025. To view an interactive version of this chart, please click on it to open a browser-based version of the graph in Flourish.

## SCIVal TOPICS & PERCENTILE

Soil to Society publications are also being indexed on SciVal,<sup>4</sup> an Elsevier-owned analytical tool. The SciVal platform provides metrics on research performance, benchmarking, and trends.

Thirteen of the 17 (76.5%) S2S publications on Scopus are indexed in SciVal across nine topics:

- Enhancing Grain Nutritional Quality through Biofortification
- Extrusion Technology in Snack Food Development
- Genetic Insights into Preharvest Sprouting Resistance in Wheat
- Health Benefits and Functional Properties of Beta-Glucan
- High-Pressure Processing and Packaging Innovations
- Nutritional and Agronomic Value of Quinoa Seeds
- Nutritional Benefits of Pulses and Legumes
- Nutritional Value and Quality of Bulgur Products
- Starch Properties and Applications in Food Science

Nine (69.2%) of the publications on SciVal have citation percentiles in the 90th percentile, indicating that these publications have an unusually high impact within their topic (Figure 6).

**Figure 6. SciVal Citation Percentiles of S2S Year 1-5 Publications**

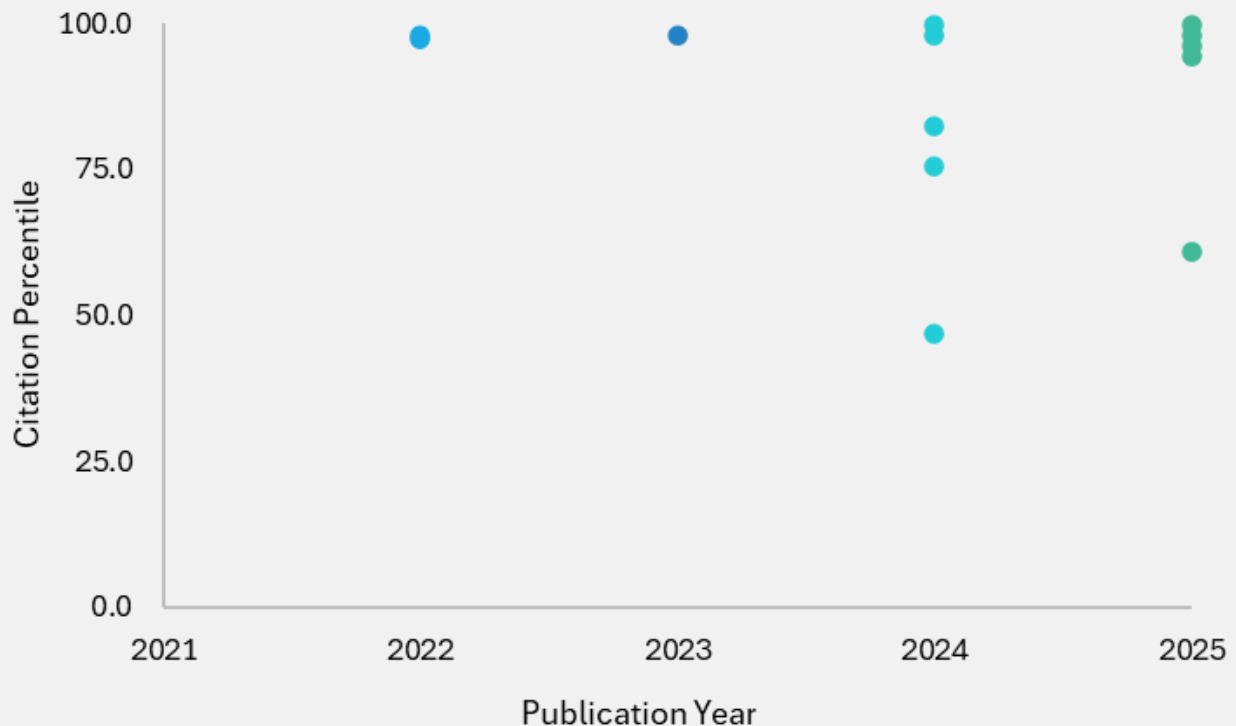


Figure 6 represents Scopus data as of October 2025.

4. See Elsevier for more information: [SciVal](#)

# ALTMETRICS

Altmetric (“alternative metrics”) analysis is the “study and use of scholarly impact measures based on activity in online tools and environments” (Priem, 2014). Altmetrics provide a more immediate way to view how project work is being engaged with across online platforms and is viewed as a predictor of long-term impact, as some metrics predict future citations (Elsevier, n.d.).<sup>5</sup>

OEIE uses PlumX, a component of Elsevier, for altmetric analyses. Metrics are organized into the following major categories:

- **Captures**—Metrics tracking engagement with scholarly citation (e.g., adding work to bookmarks or favorites lists)
- **Citations**—Metrics counting clinical, patent, policy, and scholarly citations across various databases
- **Usage**—Metrics tracking abstract and article views across different scholarly research aggregators (e.g., Mendeley, Airiti, SciELO)
- **Mentions**—Metrics tracking research mentions across blogs, news, and Wikipedia entries
- **Social Media**—Metrics tracking engagement with research on Facebook and Social Science Research Network through user ratings, shares, likes, and comments



5. See Elsevier for more information: [PlumX Metrics](#)

# ALTMETRIC RESULTS

## SOCIAL & TRADITIONAL MEDIA

In addition to being published in and cited by other researchers in peer-reviewed journal articles, S2S publications have also had an impact through social and traditional media. Seven S2S publications have been the subject of 43 news stories. Three papers received the majority of news coverage:

- “Different breeding lines of quinoa significantly influence the quality of the baked cookies and cooked grains” (2022) ( $n = 16$  news articles)
- “Development of vitamin C-enriched lentil hummus with innovative microwave technologies” (2025) ( $n = 10$  news articles)
- “Value-added pancakes: Incorporation of whole wheat buckwheat, quinoa, and proso millet flour into pancakes and their effect on product quality” (2024) ( $n = 10$  news articles)

A variety of different news sources have published on S2S research findings (Figure 7). News sources include popular news outlets, such as MSN and Yahoo; public broadcasting; and professional organization newsrooms. Most news sources only published one to two articles on project research. See Appendix E for a complete list of news outlets providing coverage of the project. The following news sources that have most frequently published S2S results :

- EurekAlert!: 3 news articles published across 2 years
- NewsRx Life Science Daily: 3 news articles published across 3 years

Five S2S publications have been the subject of one blog post each:

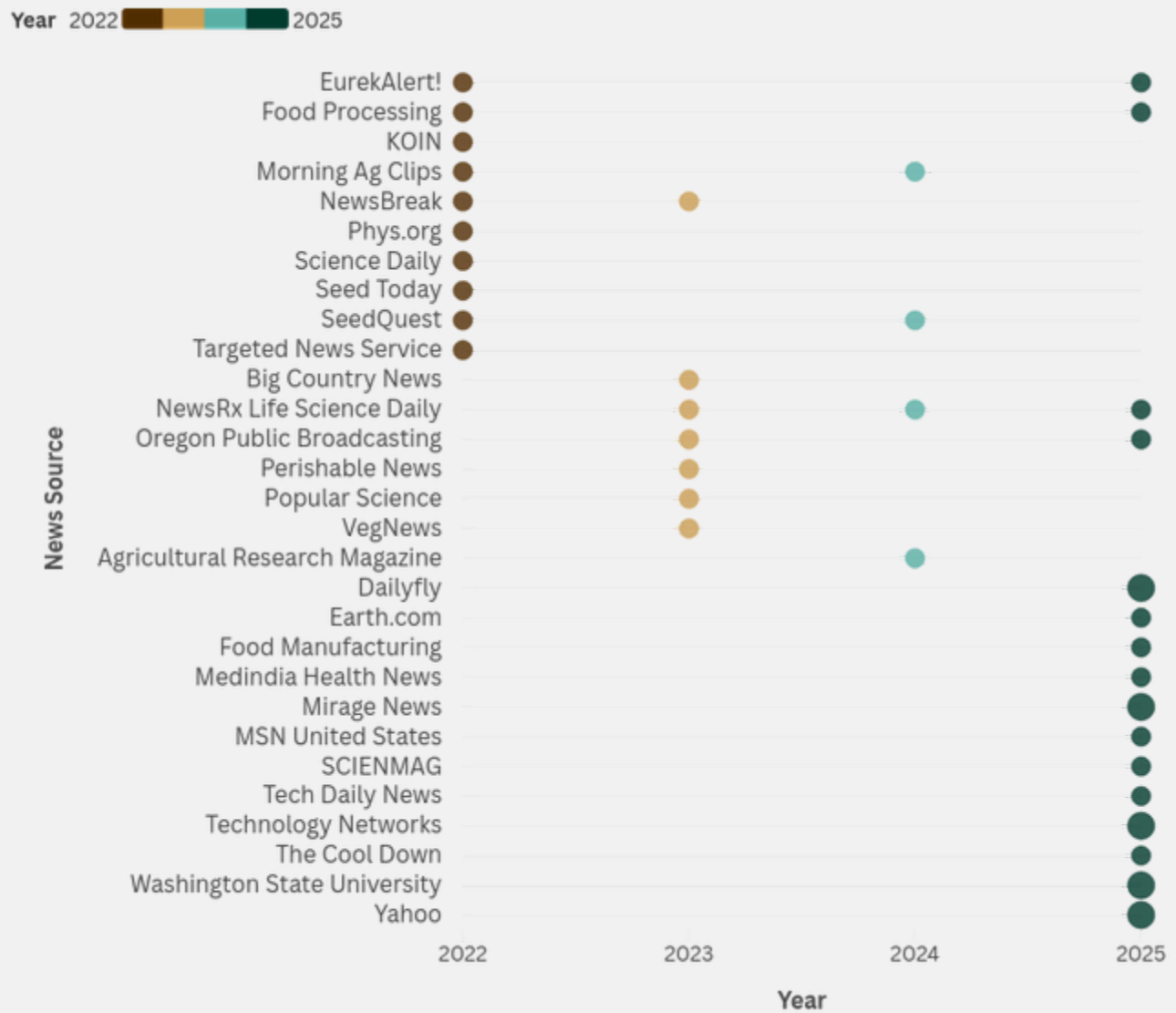
- “Different breeding lines of quinoa significantly influence the quality of the baked cookies and cooked grains” (2022)
- “Preharvest sprouting in quinoa: A new screening method adapted to panicles and GWAS components” (2024)
- “High  $\beta$ -glucan whole grain barley reduces postprandial glycemic response in healthy adults – part one of a randomized controlled trial” (2025)
- “Consumption of barley, buckwheat and quinoa in the United States: Associations with diet and metabolic health” (2025)
- “Consumption trends and eating context of lentils and dried peas in the United States: A nationally representative study” (2024)

Furthermore, one publication was engaged with on social media by 13 Facebook users:

- “Evaluating relationships between seed morphological traits and seed dormancy in *Chenopodium quinoa Willd*” (2024)

# ALTMETRIC RESULTS

Figure 7. News Sources Publishing on S2S Research



## READERS AND USAGE

All 17 S2S publications included in this analysis also received attention from readers on Mendeley, with 227 readers engaged with publications through Captures (i.e., bookmarked, favorited, or became a reader or watcher of a publication).

Readers engaged with these top three publications:

- “The diversity of quinoa morphological traits and seed metabolic composition” (2024)
- “A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection” (2023)
- “Different breeding lines of quinoa significantly influence the quality of the baked cookies and cooked grains” (2022)

# OBSERVATIONS & RECOMMENDATIONS



The S2S project has produced scholarly works that have been published in peer-reviewed journals and cited by researchers across the U.S. and the world. The range of disciplines represented by the research categories of authors citing S2S research demonstrates that findings are of interest to audiences in many fields. Most project publications and citations were generated in 2024 and 2025 (to date). Given the long-term nature of the project's research, it is not surprising that most publications appear in later years.

Several S2S papers have been more impactful than average in their field. Publications are also attracting attention online and are being discussed in news articles, blogs, Facebook, and read on Mendeley. These findings demonstrate that S2S project research is of interest to a wide variety of researchers and the broader public, both in terms of geography and discipline, and is reaching individuals both domestically and internationally. That publications contribute to the body of research advancing UN goals demonstrates the applicability of project research in solving practical problems. It is anticipated that additional articles will be published before the end of the grant, and those will increase academic citations and the reach and impact of project research overall.

OEIE recommends that S2S project leadership consider taking the following actions to promote the dissemination and reach of research findings:

- Ensure that all team members are aware of which journals have already published project research, as there may be some team members unaware of publishing opportunities at these journals.
- Promote dissemination of research findings to the general public by increasing outreach to news outlets and other alternative platforms like social media. Prioritize outlets with a prior interest in project research.
- Review the list of publishing journals and news outlets to discern if gaps in dissemination exist - are there notable publishers for target audiences in research and among the general public that have not published project research and that should be pursued as potential outlets for research findings?
  - Targeted outreach to specific publishers that align with those already publishing S2S research may be “low-hanging fruit” (e.g., Oregon Public Broadcasting covered project research; other public media may have a similar interest, if contacted).

# REFERENCES

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**USDA AFRI SAS Soil to Society  
Year 5 Cumulative Publication Impact Summary  
Appendix A – Bibliometric & Altmetric Data**

**Table 1: S2S Bibliometric & Altmetric Data by Project Publication**

Year	Title	Citation	Scopus Citations	Scopus Non-Self-Citing Citations	FWCI	PubMed Citations	News Articles	Mendeley Readers
2023	A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection	Craine, E., Davies, A., Packer, D., Miller, N. D., Schmöckel, S. M., Spaulding, E. P., Tester, M., & Murphy, K. M. (2023). A comprehensive characterization of agronomic and end-use quality phenotypes across a quinoa world core collection. <i>Frontiers in Plant Science</i> , 14, 1101547. <a href="https://doi.org/10.3389/fpls.2023.1101547">https://doi.org/10.3389/fpls.2023.1101547</a>	22	15	3.32	10	1	43
2024	A quantitative real-time PCR method to detect the quinoa downy mildew pathogen, <i>Peronospora variabilis</i>	Testen, A. L., Purnima, P., Shaw, R. Scott, Domsic, E. C., Griffin-LaHue, D., Murphy, K. M., & Mattupalli, C. (2024). A quantitative real-time PCR method to detect the quinoa downy mildew pathogen, <i>peronospora variabilis</i> . <i>Plant Disease</i> , 108(9), 2887-2893. <a href="https://doi.org/10.1094/PDIS-11-23-2308-RE">https://doi.org/10.1094/PDIS-11-23-2308-RE</a>	1	1	0.31	-	4	2
2023	Buckwheat production and value-added processing: A review of potential western Washington cropping and food system	Breslauer, R. S., Nalbandian, E. B., Reinman, T., Rezaey, M., Ganjyal, G., & Murphy, K. M. (2023). Buckwheat production and value-added processing: A review of potential western Washington cropping and food	-	-	-	-	-	-

	applications	system applications. <i>Sustainability</i> , 15(20), 14758. <a href="https://doi.org/10.3390/su152014758">https://doi.org/10.3390/su152014758</a>						
2025	Buckwheat starch isolated from varieties grown in Washington State: A qualitative characterization	Suri, S., Kamboj, A., Guo, X., Murphy, K. M., & Ganjyal, G. M. (2025). Buckwheat starch isolated from varieties grown in Washington State: A qualitative characterization. <i>Journal of Food Science</i> , 90(5), e70219. <a href="https://doi.org/10.1111/1750-3841.70219">https://doi.org/10.1111/1750-3841.70219</a>	-	-	-	-	-	4
2025	Consumption of barley, buckwheat and quinoa in the United States: Associations with diet and metabolic health	Sanjeevi, N., Stella, S. E., & Monsivais, P. (2025). Consumption of barley, buckwheat and quinoa in the United States: Associations with diet and metabolic health. <i>Nutrients</i> , 17(14), 2335. <a href="https://doi.org/10.3390/nu17142335">https://doi.org/10.3390/nu17142335</a>	-	-	-	-	-	2
2024	Consumption trends and eating context of lentils and dried peas in the United States: A nationally representative study	Sanjeevi, N., & Monsivais, P. (2024). Consumption trends and eating context of lentils and dried peas in the United States: A nationally representative study. <i>Nutrients</i> , 16(2), 277. <a href="https://doi.org/10.3390/nu16020277">https://doi.org/10.3390/nu16020277</a>	7	6	1.99	-	-	14
2022	Developing a definition of biofortification through the synthesis of food biofortification publications: A scoping review protocol	Kellogg, J. A., Klarquist, E. F., Waziri, A. D., Luftig, D., Carbonero, F., Solverson, P., Perrigue, M., Walton, J., Aytekin, D., MacKenzie, A., Garland-Campbell, K., & Murphy, K. M. (2022). Developing a definition of biofortification through the synthesis of food biofortification publications: A scoping review protocol. <i>JBI Evidence Synthesis</i> , 20(8), 2109-2116.	2	1	0.14	1	-	7

		<a href="https://doi.org/10.11124/JBIES-21-00297">https://doi.org/10.11124/JBIES-21-00297</a>						
2025	Development of vitamin C-enriched lentil hummus with innovative microwave technologies	Tenderis, B., Tang, Z., Lin, H., Bohnet, S., Tang, J., & Sablani, S. S. (2025). Development of vitamin C-enriched lentil hummus with innovative microwave technologies. <i>J Food Process Eng</i> , 48(4), e70104. <a href="https://doi.org/10.1111/jfpe.70104">https://doi.org/10.1111/jfpe.70104</a>	-	-	-	-	10	1
2022	Different breeding lines of quinoa significantly influence the quality of the baked cookies and cooked grains	Nalbandian, E., Pietrysiak, E., Murphy, K. M., & Ganjyal, G. M. (2022). Different breeding lines of quinoa significantly influence the quality of the baked cookies and cooked grains. <i>Journal of Food Science</i> , 87(12), 5225-5239. <a href="https://doi.org/10.1111/1750-3841.16354">https://doi.org/10.1111/1750-3841.16354</a>	12	4	0.95	1	16	30
2025	Elemental analysis of 346 varieties of quinoa: Development and validation of microwave plasma optical emission spectrometry (MP-OES) method	Cladis, D. P., Hill Gallant, K. M., Kisch, A. R., & Murphy, K. M. (2025). Elemental analysis of 346 varieties of quinoa: Development and validation of microwave plasma optical emission spectrometry (MP-OES) method. <i>Journal of Food Composition and Analysis</i> , 141, 107270. <a href="https://doi.org/10.1016/j.jfca.2025.107270">https://doi.org/10.1016/j.jfca.2025.107270</a>	-	-	-	-	-	2
2024	Evaluating relationships between seed morphological traits and seed dormancy in <i>Chenopodium quinoa</i> Willd.	McGinty, E., Craine, E., Miller, N., Ocana-Gallegos, C., Spalding, E., Murphy, K. M., & Hauvermale, A. (2023). Evaluating relationships between seed morphological traits and seed dormancy in <i>Chenopodium quinoa</i> Willd. <i>Frontiers Plant Science</i> , 14.	3	2	0.45	-	-	13

		<a href="https://doi.org/10.3389/fpls.2023.1161165">https://doi.org/10.3389/fpls.2023.1161165</a>						
2025	Exploring the potential of lentil flour and lentil protein concentrate from Richlea lentils in the development of couscous with a pilot-scale twin-screw extruder	Allan, E., Bajwa, D., Ganjyal, G. M., Ifeh, C., Pirati, R., & Kuo, W. Y. (2025). Exploring the potential of lentil flour and lentil protein concentrate from Richlea lentils in the development of couscous with a pilot-scale twin-screw extruder. <i>Journal of Food Science</i> , 90(7), e70356. <a href="https://doi.org/10.1111/1750-3841.70356">https://doi.org/10.1111/1750-3841.70356</a>	-	-	-	-	-	14
2024	Exploring the potential of flour, starch concentrate, and protein concentrate from Richlea lentils in the development of lentil based extruded puffs	Allan, E., Bajwa, D., Ganjyal, G. M., Kim, S. H., McPhee, K., Obiri-Yeboah, M., & Kuo, W. Y. (2024). Exploring the potential of flour, starch concentrate, and protein concentrate from Richlea lentils in the development of lentil based extruded puffs. <i>Journal of Food Science</i> , 89(12), 9622-9637. <a href="https://doi.org/10.1111/1750-3841.17555">https://doi.org/10.1111/1750-3841.17555</a>	1	1	0.23	-	-	2
2025	High $\beta$ -glucan whole grain barley reduces postprandial glycemic response in healthy adults—Part one of a randomized controlled trial	Kellogg, J. A., Monsivais, P., Murphy, K. M., & Perrigue, M. M. (2025). High $\beta$ -glucan whole grain barley reduces postprandial glycemic response in healthy adults—Part one of a randomized controlled trial. <i>Nutrients</i> , 17(3), 430. <a href="https://doi.org/10.3390/nu17030430">https://doi.org/10.3390/nu17030430</a>	3	2	2.79	1	-	12
2025	<i>In vitro</i> fecal fermentation demonstrates the prebiotic-like	Connolly, D., Minj, J., Arbizu, S., Kirkendall, A., Nalbandian, E., Ganjyal, G. M., Murphy, K. M., Solverson, P., & Carbonero, F. (2025). <i>In vitro</i> fecal	-	-	-	-	1	4

	properties of quinoa modulated by different preparation methods	fermentation demonstrates the prebiotic-like properties of quinoa modulated by different preparation methods. <i>Current Research in Food Science</i> , 11, 101198. <a href="https://doi.org/10.1016/j.crfs.2025.101198">https://doi.org/10.1016/j.crfs.2025.101198</a>						
2024	Preharvest sprouting in quinoa: A new screening method adapted to panicles and GWAS components	Ocana-Gallegos, C., Liang, M., McGinty E., Zhang, Z., Murphy, K. M., & Hauvermale, A. (2024). Preharvest sprouting in quinoa: A new screening method adapted to panicles and GWAS components. <i>Plants</i> , 13(10), 1297. <a href="https://doi.org/10.3390/plants13101297">https://doi.org/10.3390/plants13101297</a>	-	-	-	-	1	3
2024	Quantifying the quinoa ionome: Mineral content of 346 quinoa varieties	Cladis, D. P., Hill Gallant, K. M., & Murphy, K. (2024). Quantifying the quinoa ionome: Mineral content of 346 quinoa varieties. <i>Current Developments in Nutrition</i> , 8(2), 103762. <a href="https://doi.org/10.1016/j.cdnut.2024.103762">https://doi.org/10.1016/j.cdnut.2024.103762</a>	-	-	-	-	-	-
2024	The diversity of quinoa morphological traits and seed metabolic composition	Tabatabaei, I., Alseekh, S., Shahid, M., Lenaik, E., Wagner, M., Mahmoudi, H., Thushar, S., Fernie, A. R., Murphy, K. M., Schmöckel, S. M., Tester, M., Mueller-Roeber, B., Skirycz, A., & Balazadeh, S. (2022). The diversity of quinoa morphological traits and seed metabolic composition. <i>Scientific Data</i> 9, 323. <a href="https://doi.org/10.1038/s41597-022-01399-y">https://doi.org/10.1038/s41597-022-01399-y</a>	23	21	0.97	10	-	62
2024	Value-added pancakes:	Nalbandian, E., Park, D., Camerino, N.,	2	1	2.21	-	10	12

Incorporation of whole wheat buckwheat, quinoa, and proso millet flour into pancakes and their effect on product quality	& Ganjyal, G. M. (2024). Value-added pancakes: Incorporation of whole wheat buckwheat, quinoa, and proso millet flour into pancakes and their effect on product quality. <i>Cereal Chemistry</i> , 102(1), 226-238. <a href="https://doi.org/10.1002/cche.10858">https://doi.org/10.1002/cche.10858</a>						
<b>Total:</b>		<b>76</b>	<b>54</b>	<b>-</b>	<b>23</b>	<b>43</b>	<b>227</b>

**USDA AFRI SAS Soil to Society  
Year 5 Cumulative Publication Impact Summary  
Appendix B – Bibliometric Citations by Country**

**Table 1: Bibliometric Citations by Country (n = 33)**

Country	Citations	Percentage of Total
India	128	30.9%
United States of America	57	13.8%
China	37	8.9%
Spain	25	6.0%
Pakistan	20	4.8%
Denmark	15	3.6%
United Arab Emirates	14	3.4%
Germany	13	3.1%
Czech Republic	12	2.9%
Peru	10	2.4%
Bangladesh	9	2.2%
Taiwan	9	2.2%
Algeria	8	1.9%
Brazil	7	1.7%
France	5	1.2%
Turkey	5	1.2%
Belgium	4	1.0%
Ecuador	4	1.0%
Portugal	4	1.0%
Saudi Arabia	4	1.0%
United Kingdom	4	1.0%
Canada	3	0.7%
Egypt	3	0.7%
Italy	3	0.7%
Kazakhstan	3	0.7%
Australia	1	0.2%
Austria	1	0.2%
Cambodia	1	0.2%
Ethiopia	1	0.2%
Japan	1	0.2%
Mexico	1	0.2%
South Korea	1	0.2%
Uganda	1	0.2%
<b>Total:</b>	<b>414</b>	<b>100%</b>

Table 1 represents October 2025 Scopus values.

**USDA AFRI SAS Soil to Society  
Year 5 Cumulative Publication Impact Summary  
Appendix C – Research Categories of Authors Citing S2S Publications**

**Table 1: Research Categories of Authors Citing S2S Publications**

Research Category	Citations
<b>Agricultural and Biological Sciences</b>	<b>80</b>
Food Science	32
Plant Science	23
Agronomy and Crop Science	15
Ecology, Evolution, Behavior and Systematics	4
Horticulture	3
Soil Science	3
<b>Biochemistry, Genetics, and Molecular Biology</b>	<b>18</b>
Biotechnology	7
Genetics	4
Physiology	4
Molecular Biology	2
Biochemistry	1
<b>Environmental Science</b>	<b>16</b>
Ecology	6
Management, Monitoring, Policy and Law	4
Environmental Science (miscellaneous)	2
Global and Planetary Change	2
Nature and Landscape Conservation	1
Water Science and Technology	1
<b>Medicine</b>	<b>9</b>
Endocrinology, Diabetes and Metabolism	3
Microbiology (medical)	2
Health Policy	1
Medicine (miscellaneous)	1
Pharmacology (medical)	1
Public Health, Environmental and Occupational Health	1
<b>Nursing</b>	<b>8</b>
Nutrition and Dietetics	8
<b>Social Sciences</b>	<b>7</b>
Geography, Planning and Development	3
Health (social science)	2
Education	1
Gender Studies	1
<b>Chemistry</b>	<b>6</b>
Organic Chemistry	3
Chemistry (all)	2
Chemistry (miscellaneous)	1
<b>Computer Science</b>	<b>6</b>
Computer Networks and Communications	2

Research Category	Citations
Computer Science (miscellaneous)	2
Hardware and Architecture	2
<b>Engineering</b>	<b>5</b>
Industrial and Manufacturing Engineering	3
Engineering (miscellaneous)	2
<b>Immunology and Microbiology</b>	<b>5</b>
Microbiology	3
Applied Microbiology and Biotechnology	2
<b>Energy</b>	<b>4</b>
Energy Engineering and Power Technology	2
Renewable Energy, Sustainability and the Environment	2
<b>Chemical Engineering</b>	<b>2</b>
Chemical Engineering (all)	2
<b>Dentistry</b>	<b>1</b>
Dentistry (all)	1
<b>Earth and Planetary Science</b>	<b>1</b>
Earth-Surface Processes	1
<b>Economics, Econometrics and Finance</b>	<b>1</b>
Economics, Econometrics and Finance (miscellaneous)	1
<b>Health Professions</b>	<b>1</b>
Health Professions (miscellaneous)	1
<b>Multidisciplinary</b>	<b>1</b>
Multidisciplinary	1
<b>Pharmacology, Toxicology, and Pharmaceutics</b>	<b>1</b>
Pharmacology, Toxicology and Pharmaceutics (all)	1

Table 1 represents October 2025 Scopus values and journal categories.

**USDA AFRI SAS Soil to Society  
Year 5 Cumulative Publication Impact Summary  
Appendix D – Publishing Journals of S2S Articles**

**Table 1: Publishing Journals (n = 13) of S2S Articles**

<b>Journal</b>	<b>Number of Articles Published</b>
<i>Journal of Food Science</i>	4
<i>Nutrients</i>	3
<i>Frontiers in Plant Science</i>	2
<i>Cereal Chemistry</i>	1
<i>Current Developments in Nutrition</i>	1
<i>Current Research in Food Science</i>	1
<i>JBI Evidence Synthesis</i>	1
<i>Journal of Food Composition and Analysis</i>	1
<i>Journal of Food Process Engineering</i>	1
<i>Plant Disease</i>	1
<i>Plants</i>	1
<i>Scientific Data</i>	1
<i>Sustainability</i>	1
<b>Total:</b>	<b>19</b>

Table 1 represents the publishing journals of Soil to Society’s publications as of October 2025.

**USDA AFRI SAS Soil to Society  
Year 5 Cumulative Publication Impact Summary  
Appendix E – News Sources Covering S2S Research**

**Table 1: News Sources (n = 29) Covering S2S Research**

News Source	Number of Articles Published
EurekaAlert!	3
NewsRx Life Science Daily	3
Daily Fly	2
FoodProcessing	2
Mirage News	2
Morning Ag Clips	2
NewsBreak	2
Oregon Public Broadcasting	2
SeedQuest	2
Technology Networks	2
Washington State University	2
Yahoo	2
Agricultural Research Magazine	1
Big Country News	1
Earth.com	1
Food Manufacturing	1
KOIN	1
MedIndia Health News	1
MSN United States	1
Perishable News	1
Phys.org	1
Popular Science	1
Science Daily	1
SCIENMAG	1
Seed Today	1
Targeted News Service	1
Tech Daily News	1
The Cool Down	1
Vegnews	1
<b>Total:</b>	<b>43</b>

Table 1 represents October 2025 Scopus values.